State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Central Valley Regional Water Quality Control Board, Redding (Regional Water Board)	Address: 364 Knollcrest Drive, Suite 200, Redding, CA 96002
Agency Caseworker: Grant Stein	Case No.: 320063

Case Information

USTCF Claim No.: 17740	GeoTracker Global ID: T0606398115
Site Name: Warner Chevron	Site Address: 151 Crescent Street, Quincy, CA 95971
Responsible Party: Warner Petroleum Inc. C/O: Shaw Environmental Attn: Debbie Therien	Address: 4005 Port Chicago Hwy, Concord, CA 94520
USTCF Expenditures to Date: $818,248	Number of Years Case Open: 12

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606398115

Summary

The Low-Threat Underground Storage Tank (UST) Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Policy. This case meets all of the required criteria of the Policy. A summary evaluation of compliance with the Policy is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model upon which the evaluation of the case has been made is described in **Attachment 2: Summary of Basic Case Information (Conceptual Site Model).** Highlights of the case follow:

This case is an active commercial petroleum fueling facility in Quincy. An unauthorized release was reported in January 2001. Chevron removed five USTs from two excavations in 1986. No active remediation has been conducted. Since 2003, 38 groundwater monitoring wells were installed and monitored, though monitoring has not been conducted since 2008. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents except total petroleum hydrocarbons as gasoline (TPHg), benzene, and methyl tert-butyl ether (MTBE).

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are two California Department of Public Health regulated supply wells within 250 feet of the defined plume boundary, which are located upgradient of the Site. These wells are in standby mode and not used for public water supply since 2001. Their anticipated to be used only used for firefighting supply after petroleum and organic odor complaints were reported by the water users in the area around 2001. Clear Stream (or Cold Stream) is located approximately 750 feet northwest and upgradient of the Site. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Water is provided to water users near the Site by Quincy Community Services District in Quincy, California. The affected groundwater is

not currently being used as a source of drinking water, and it is highly unlikely that the affected groundwater will be used as a source of drinking water in the foreseeable future. Other designated beneficial uses of impacted groundwater are not threatened, and it is highly unlikely that they will be, considering these factors in the context of the site setting. Remaining petroleum hydrocarbon constituents are limited and stable, and concentrations are decreasing. Corrective actions have been implemented and additional corrective actions are not necessary. Any remaining petroleum hydrocarbon constituents do not pose a significant risk to human health, safety or the environment.

Rationale for Closure under the Policy

- General Criteria: The case meets all eight Policy general criteria.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 5. There are two California Department of Public Health regulated supply wells (Norton Wells) located 200 feet north of the Site, however, the petroleum hydrocarbon plume at the Site is approximately 160 feet long and downgradient from the Norton Wells. The Norton Wells have not been used since 2001, after MTBE was tested at 3.3 µg/L during one sampling event, and petroleum and organic odor complaints were reported by the water users in the area. Several other petroleum release cases were reported in the immediate area, and half of the cases have since been closed. Subsequent monitoring events conducted at the Norton Wells reported no petroleum constituents above water quality objectives. It is highly unlikely the Norton Wells will be activated in the future due to past odor complaints and the several contaminated sites located nearby. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Clear Stream (or Cold Stream) is located approximately 750 feet northwest of the defined plume boundary. Because the defined plume is at the downgradient location, it does not pose a significant risk to the stream. The regulatory agency determines, based on the analysis of site specific conditions, which under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment, and water quality objectives will be achieved within a reasonable time frame.
- Vapor Intrusion to Indoor Air: The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility and the release characteristics do not pose an unacceptable health risk.
- Direct Contact and Outdoor Air Exposure: Direct Contact and Outdoor Air Exposure: This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. As an active petroleum fueling facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.

Objections to Closure and Responses

The Regional Water Board objected to UST case closure (March 2011 letter) because:

- No groundwater monitoring has occurred at the Site since 2008, and currently available data, such as the plot of MTBE concentration in Site monitoring well MW-4, does not indicate the groundwater plume was stable and/or declining.

  RESPONSE: The MTBE plume is defined and stable based on the latest monitoring data collected in 2008. The low level of fluctuations in petroleum concentrations is not unusual

when groundwater levels fluctuate. Since the Site conditions met all of the Policy Criteria in 2008, the Site does not pose significant risk to human health, safety or the environment.

Determination
Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

Recommendation for Closure
Based on available information, residual petroleum hydrocarbons at the Site do not pose a significant risk to human health, safety, or the environment, and the case meets the requirements of the Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification as required by the Policy. Plumas County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock

Lisa Babcock, P.G. 3939, C.E.G. 1235

12/5/13

Date

Prepared by: James Young

ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW

The case complies with the State Water Resources Control Board policies and state law. Section 25296.10 of the Health and Safety Code requires that sites be cleaned up to protect human health, safety, and the environment. Based on available information, any residual petroleum constituents at the Site do not pose significant risk to human health, safety, or the environment.

The case complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.[1]

Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations? The corrective action provisions contained in Chapter 6.7 of the Health and Safety Code and the implementing regulations govern the entire corrective action process at leaking UST sites. If it is determined, at any stage in the corrective action process, that UST site closure is appropriate, further compliance with corrective action requirements is not necessary. Corrective action at this site has been consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations and, since this case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.	☒ Yes ☐ No
Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?	☒ Yes ☐ No
If so, was the corrective action performed consistent with any order? There was an order issued for this case. The corrective action performed in the past is consistent with that order. Since this case meets applicable case-closure requirements, further corrective action under the order that is not necessary, unless the activity is necessary for case closure.	☒ Yes ☐ No ☐ NA
General Criteria General criteria that must be satisfied by all candidate sites:	
Is the unauthorized release located within the service area of a public water system?	☒ Yes ☐ No
Does the unauthorized release consist only of petroleum?	☒ Yes ☐ No
Has the unauthorized ("primary") release from the UST system been stopped?	☒ Yes ☐ No
Has free product been removed to the maximum extent practicable?	☐ Yes ☐ No ☒ NA

[1] Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?	☒ Yes ☐ No
Has secondary source been removed to the extent practicable?	☒ Yes ☐ No
Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?	☒ Yes ☐ No
Nuisance as defined by Water Code section 13050 does not exist at the Site?	☒ Yes ☐ No
Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?	☐ Yes ☒ No
Media-Specific Criteria Candidate sites must satisfy all three of these media-specific criteria: **1. Groundwater:** To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites:	
Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?	☒ Yes ☐ No ☐ NA
Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites?	☒ Yes ☐ No ☐ NA
If YES, check applicable class: ☐ **1** ☐ **2** ☐ **3** ☐ **4** ☒ **5**	
For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?	☐ Yes ☐ No ☒ NA
2. Petroleum Vapor Intrusion to Indoor Air: The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.	
Is the Site an active commercial petroleum fueling facility? Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.	☒ Yes ☐ No
a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4?	☐Yes ☐ No ☒ NA

If YES, check applicable scenarios: ☐ **1** ☐ **2** ☐ **3** ☐ **4**	
b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?	☐ Yes ☐ No ☒ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
3. Direct Contact and Outdoor Air Exposure: The Site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).	
a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?	☐ Yes ☐ No ☒ NA
b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?	☒ Yes ☐ No ☐ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA

ATTACHMENT 2: SUMMARY OF BASIC CASE INFORMATION (Conceptual Site Model)

Site Location/History

- This case is an active commercial petroleum fueling facility bounded by a commercial fueling facility across Crescent Street to the east, a residence to the north, an open field to the west, and residences to the south.
- Site map showing the location of the site features, monitoring wells, and groundwater level contours is provided at the end of this closure review summary (Shaw Environmental, Inc., 2007).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: January 19, 2001.
- Status of Release: USTs replaced.
- Free Product: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1,2	10,000	Gasoline	Removed	August 1986
3	5,000	Gasoline	Removed	August 1986
4	550	Heating Oil	Removed	August 1986
5	1,000	Waste Oil	Removed	August 1986
6-9	Unknown	Gasoline	Active	-

Receptors

- GW Basin: American Valley.
- Beneficial Uses: The Regional Water Board Basin Plan lists municipal, domestic and agricultural supply, industrial service and process service supply.
- Land Use Designation: Aerial photograph available on GeoTracker suggests industrial, commercial and residential land use in the vicinity of the Site.
- Public Water System: Quincy Community Services District.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are two public supply wells regulated by California Department of Public Health within 1,000 feet of the Site. The closest well (Norton Well, standby raw) is located 200 feet north of the Site.
- Distance to Nearest Surface Water: Clear Stream (or Cold Stream) is located approximately 750 feet northwest (upgradient) of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded and intermixed sand, silt, and clay.
- Maximum Sample Depth: Data not available.
- Minimum Groundwater Depth: 2.85 feet below ground surface (bgs) at monitoring well MW-4.
- Maximum Groundwater Depth: 10.72 feet bgs at monitoring well MW-3.
- Current Average Depth to Groundwater: Approximately 5 feet bgs.
- Saturated Zones(s) Studied: Approximately 2 - 90 feet bgs.
- Appropriate Screen Interval: Some submerged.
- Groundwater Flow Direction: Shallow groundwater generally flows southeast and deeper groundwater flow varies from east to north.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (June 2008)
MW-1	2003	5-20	4.44
MW-2	2003	80-90	9.13
MW-3	2003	55-60	9.54
MW-4	2003	5-20	5.33
MW-5	2003	5-20	5.70
MW-4-25	2007	21-25	5.28
MW-4-39	2007	34-39	5.94
MW-6-9	2007	5-9	4.81
MW-7-20	2007	5-20	5.32
MW-7-37	2007	32-37	5.51
MW-7-55	2007	50-55	7.28
MW-7-67	2007	62-67	7.11
MW-8-4	2007	2-4	3.10
MW-9-4	2007	2-4	3.01
MW-10-20	2007	5-20	9.06
MW-11-18	2007	4-8	4.60
MW-11-39	2007	34-39	10.28
MW-11-55	2007	50-55	9.18
MW-11-71	2007	66-71	11.41
MW-12-20	2007	5-20	3.40
MW-12-40	2007	35-40	8.78
MW-12-55	2007	50-55	8.76
MW-12-68	2007	63-68	10.09
MW-13-17	2007	13-17	5.28
MW-13-20	2007	5-20	4.95
MW-13-25	2007	21-25	5.85
MW-14-17	2007	13-17	5.32
MW-14-20	2007	5-20	5.51
MW-14-25	2007	21-25	5.48
MW-15-17	2007	13-17	5.42
MW-16-20	2007	5-20	5.61
MW-17-17	2007	13-17	5.53
MW-17-20	2007	5-20	5.49
MW-17-25	2007	21-25	5.58
MW-17-36	2007	33-36	6.30
MW -18-9	2007	4-9	4.48

Remediation Summary

- Free Product: None reported in GeoTracker.
- Soil Excavation: Unknown volume.
- In-Situ Soil Remediation: None reported.
- Groundwater Remediation: None reported.

Most Recent Concentrations of Petroleum Constituents in Soil *

Constituent	Maximum 0-5 feet bgs [mg/kg (date)]	Maximum 5-10 feet bgs [mg/kg (date)]
Benzene	0.036 (June 2008)	NA
Ethylbenzene	NA	NA
Naphthalene	0.015 (June 2008)	NA
PAHs	NA	NA

NA: Not Analyzed, Not Applicable or Data Not Available
mg/kg: Milligrams per kilogram, parts per million
<: Not detected at or above stated reporting limit
PAHs: Polycyclic aromatic hydrocarbons
*: Due to shallow groundwater, soil samples were collected only at depths of 0-5 feet bgs

Most Recent Concentrations of Petroleum Constituents in Groundwater

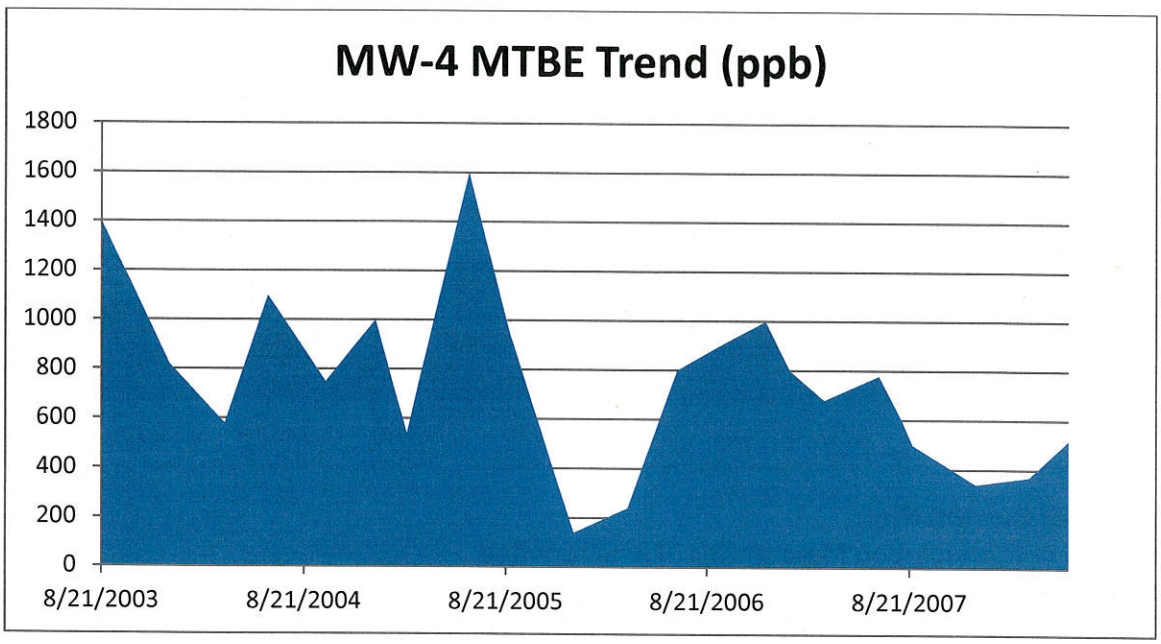
Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Ethyl-benzene	MTBE (µg/L)
MW-1	06/03/08	**160**	**<0.35**	NA	**120**
MW-2	06/03/08	**27**	**<0.35**	NA	<0.31
MW-3	06/03/08	**32**	**<0.35**	NA	<0.31
MW-4	06/03/08	**670**	**<0.35**	NA	**520**
MW-5	06/03/08	**540**	**8**	NA	**70**
MW-4-25	08/27/07	**560**	<0.069	NA	**520**
MW-4-39	06/03/08	**33**	**<0.35**	NA	<0.31
MW-6-9	03/24/08	**<17**	**<0.35**	NA	<0.31
MW-7-20	08/27/07	**<16**	<0.069	NA	1.1
MW-7-37	08/27/07	**42**	**<0.36**	NA	0.17
MW-7-55	03/24/08	**<17**	**<0.35**	NA	<0.31
MW-7-67	08/27/07	**13**	<0.069	NA	<0.074
MW-8-4	08/27/07	**<12**	<0.069	NA	<0.074
MW-9-4	03/24/08	**<17**	**<0.35**	NA	<0.31
MW-10-20	03/24/08	**<17**	**<35**	NA	**<31**
MW-11-18	03/24/08	**29**	**<0.35**	NA	**8**
MW-11-39	06/03/08	**30**	**<0.35**	NA	<0.31
MW-11-55	06/03/08	**25**	**<0.35**	NA	1
MW-11-71	06/03/08	**18**	**<0.35**	NA	<0.31
MW-12-20	03/24/08	**20**	**<0.34**	NA	1
MW-12-40	06/03/08	**31**	**<0.35**	NA	<0.31
MW-12-55	06/03/08	**36**	**<0.35**	NA	2
MW-12-68	06/03/08	**43**	**<0.35**	NA	<0.31
MW-13-17	06/03/08	**880**	**<0.35**	NA	**610**
MW-13-20	03/24/08	**330**	**<0.35**	NA	**220**
MW-13-25	03/24/08	**310**	**<0.35**	NA	**240**
MW-14-17	03/24/08	**26**	**<0.35**	NA	2
MW-14-20	06/27/07	**<12**	<0.069	NA	1.4
MW-14-25	06/03/08	**33**	**<0.35**	NA	<0.31
MW-15-17	03/24/08	**82**	**<0.35**	NA	**43**
MW-16-20	03/24/08	**29**	**<0.35**	NA	4
MW-17-17	06/03/08	**490**	**<0.35**	NA	**390**
MW-17-20	03/24/08	**44**	**<0.35**	NA	**41**
MW-17-25	03/24/08	**19**	**<0.35**	NA	**13**
MW-17-36	06/03/08	**21**	**<0.35**	NA	<0.31
MW-17-57	06/03/08	**28**	**<0.35**	NA	<0.31
MW-17-70	06/03/08	**21**	**<0.35**	NA	<0.31
MW-18-9	06/03/08	**1,500**	**94**	**94**	**390**
WQOs	--	**5**	**0.15**	**29**	**5**

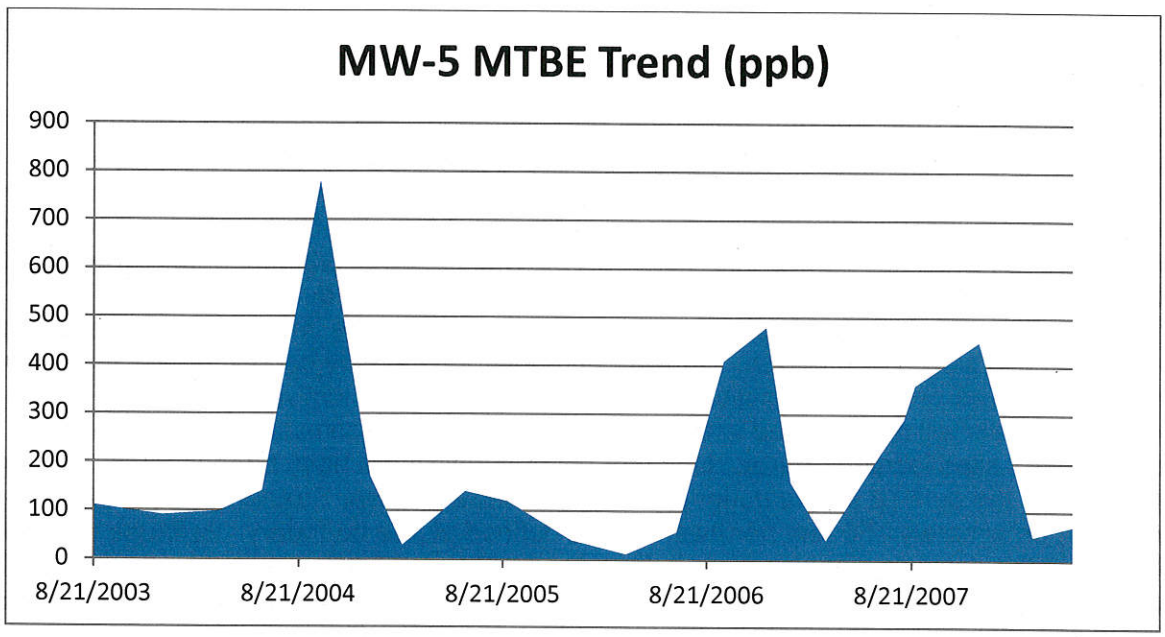
NA: Not Analyzed, Not Applicable or Data Not Available
µg/L: Micrograms per liter, parts per billion
<: Not detected at or above stated reporting limit; TPHg
Total petroleum hydrocarbons as gasoline
MTBE: Methyl tert-butyl ether
WQOs: Water quality objectives based on Regional Water Board, Basin Plan

Groundwater Trends

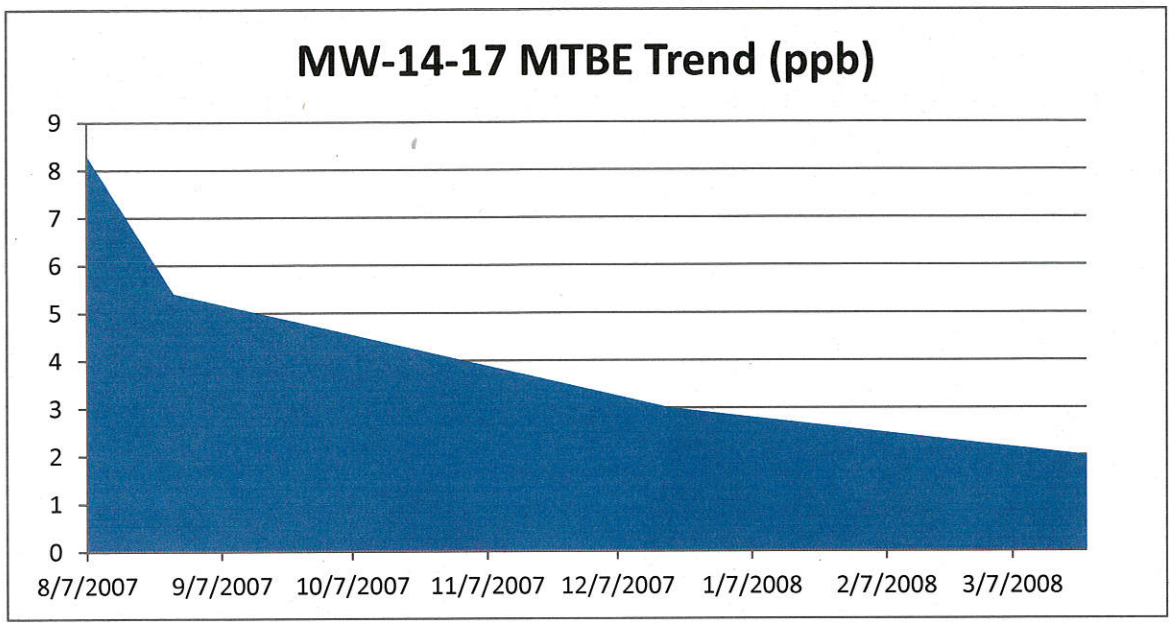
- Groundwater monitoring was conducted between 2003 and 2008. MTBE trends are shown below: Source Area wells MW-4 and MW-5, and downgradient well MW-14-17.

Source Area Wells





Downgradient Well MW-14-17

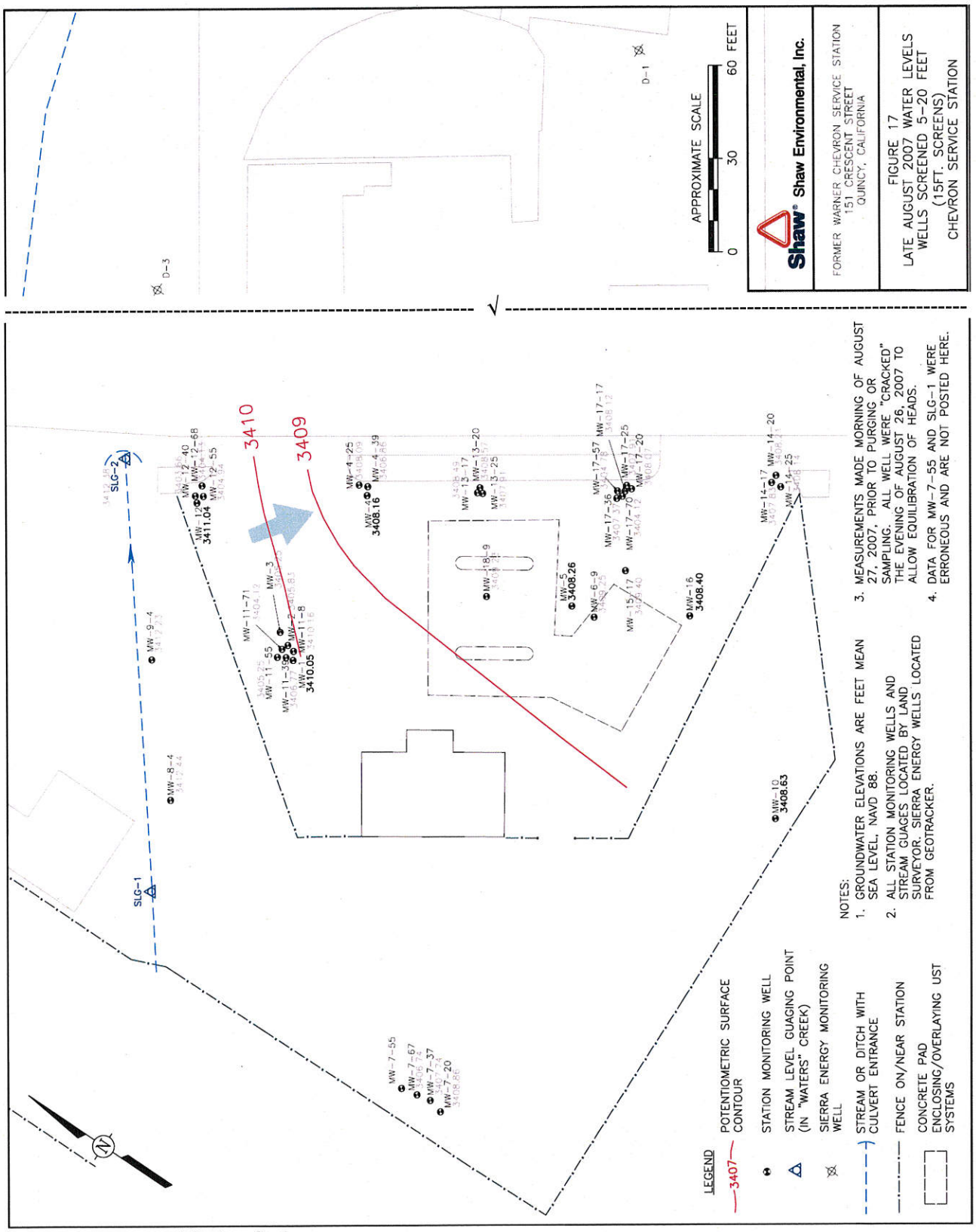


Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <250 feet.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 1 by Class 5. There are two California Department of Public Health regulated supply wells (Norton Wells) located 200 feet north of the Site, however, the petroleum hydrocarbon plume at the Site is approximately 160 feet long and downgradient from the Norton Wells. The Norton Wells have not been used since 2001, after MTBE was tested at 3.3 µg/L during one sampling event, and petroleum and organic odor complaints were reported by the water users in the area. Several other petroleum release cases were reported in the immediate area, and half of the cases have since been closed. Subsequent monitoring events conducted at the Norton Wells reported no petroleum constituents above water quality objectives. It is highly unlikely the Norton Wells will be activated in the future due to past odor complaints and the several contaminated sites located nearby. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Clear Stream (or Cold Stream) is located approximately 750 feet northwest of the defined plume boundary. Because the defined plume is at the downgradient location, it does not pose a significant risk to the stream. The regulatory agency determines, based on the analysis of site specific conditions, which under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment, and water quality objectives will be achieved within a reasonable time frame.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets the Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active

commercial petroleum fueling facility and the release characteristics do not pose an unacceptable health risk.

- Direct Contact Risk from Residual Petroleum Hydrocarbons: Direct Contact and Outdoor Air Exposure: This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is paved and accidental exposure to site soils is prevented. As an active petroleum fueling facility, any construction worker working at the Site will be prepared for exposure in their normal daily work.



Original map modified to fit the page.